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AMENDMENTS TO THE DRAWINGS:

The attached sheets of Drawings include changes to Figs. 2B, 2C, and 3. These sheets, which include Figs. 2A through 2D and Fig. 3, replace the original sheets including Figs. 2A through 2D and Fig. 3.

Attachment: Replacement Sheets.

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REMARKS/ARGUMENTS

Claims 12-22 are pending in this application. By this Amendment, Applicant amends the specification, the drawings, and Claims 12 and 14-16.

Applicant appreciates the Examiner's indication that Claims 15, 18, and 20-22 would be allowable if rewritten in independent form including all of the features recited in the base claim and any intervening claims.

The specification was objected to for containing minor informalities. Applicant has amended the specification to correct the minor informalities noted by the Examiner. Accordingly, Applicant respectfully requests reconsideration and withdrawal of this objection.

The drawings were objected to for containing minor informalities. Applicant has amended the drawings to correct the minor informalities noted by the Examiner. Accordingly, Applicant respectfully requests reconsideration and withdrawal of this objection.

In addition, Applicant has replaced Fig. 3 with a new Fig. 3 which more clearly shows the features shown in originally filed Fig. 3. Applicants respectfully submit that no new matter has been added in new Fig. 3.

Claims 14, 16, and 19 were rejected under 35 U.S.C. § 112, second paragraph, for allegedly being indefinite. Applicant has amended Claims 14 and 16 to correct the informalities noted by the Examiner. Accordingly, Applicant respectfully requests reconsideration and withdrawal of this rejection.

Claims 12 and 15 were objected to for containing minor informalities. Applicant has amended Claims 12 and 15 to correct the minor informalities noted by the Examiner. Accordingly, Applicant respectfully requests reconsideration and withdrawal of this objection.

Claims 12, 13, and 17 were rejected under 35 U.S.C. § 102(b) as being clearly anticipated by Ishikawa et al. (U.S. 5,770,989). Applicant notes that the Examiner did not reject claims 14, 16, and 19 over prior art. Accordingly, Applicant presumes that

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Claims 14, 16, and 19 would be allowable if rewritten in independent form including all of the features of the base claim and any intervening claims. Applicant respectfully traverses the rejection of Claims 12, 13, and 17.

Claim 12 has been amended to recite:

A line converter comprising:
a three-dimensional waveguide arranged to propagate an electromagnetic wave in a three-dimensional space;
a dielectric substrate; and
a plane circuit having a conductor pattern disposed on said dielectric substrate; wherein
the dielectric substrate is arranged to be substantially parallel to an E plane of the three-dimensional waveguide and at an approximately central portion of the three-dimensional waveguide and the conductor pattern of the dielectric substrate includes a conductor portion defining a shield area of the three-dimensional waveguide, a coupling-line portion that is electromagnetically coupled to a standing wave that occurs in the shield area, and a transmission-line portion extending from the coupling-line portion.
(emphasis added)

With the unique combination and arrangement of features recited in Applicant's Claim 12, including the features of "the dielectric substrate is arranged to be substantially parallel to an E plane of the three-dimensional waveguide and at an approximately central portion of the three-dimensional waveguide and the conductor pattern of the dielectric substrate includes a conductor portion defining a shield area of the three-dimensional waveguide, a coupling-line portion that is electromagnetically coupled to a standing wave that occurs in the shield area," Applicant has been able to provide a line converter wherein a plane circuit can be arranged in a predetermined direction that is substantially parallel to the direction in which an electromagnetic wave propagates through a three-dimensional waveguide, a dielectric substrate can be easily machined, and the characteristic of coupling between the plane circuit provided on the dielectric substrate and the three-dimensional waveguide is prevented from being affected by the precision of assembling the plane circuit and the three-dimensional

waveguide so that a line-conversion characteristic according to a predetermined design can be easily obtained. (See, for example, the first full paragraph on page 3 of the Substitute Specification).

The Examiner alleged that Ishikawa et al. teaches all of the features recited in Applicant's Claim 12, including a dielectric substrate that "includes a conductor portion defining a 'shielding area' [i.e. the ground connection pattern in Fig. 20(A)] which as shown in Fig. 20(B) is electrically connected by conductive structure or projection portion (14') to the conductive plates (13, 14) of the waveguide, such as to provide an electrical short circuit there between." Applicant respectfully disagrees

In contrast to the Examiner's allegation, Ishikawa et al. neither teaches nor suggests that the projection portion 14' of the conductor plate 14 defines a shielding area as recited in Applicant's Claim 12. As recited in Claim 12, a standing wave occurs in the shielding area. Ishikawa et al. fails to teach or suggest anything at all about a standing wave, and certainly fails to teach or suggest that a standing wave occurs at the projection portion 14'. Thus, Applicant respectfully submits that the projection portion 14' of Ishikawa et al. clearly cannot be fairly construed as defining a shielding area, as recited in Applicant's Claim 12.

In addition, as clearly seen in Fig. 20(B) of Ishikawa, the projection portion 14' of the conductor plate 14 is disposed at an end portion of the conductor pattern 15, and certainly cannot be fairly construed as teaching or suggesting a shielding area disposed at an approximately central portion of a three-dimensional waveguide and a conductor pattern of the dielectric substrate as recited in Applicant's Claim 12.

Thus, Ishikawa et al. certainly fails to teach or suggest the features of "the dielectric substrate is arranged to be substantially parallel to an E plane of the three-dimensional waveguide and at an approximately central portion of the three-dimensional waveguide and the conductor pattern of the dielectric substrate includes a conductor portion defining a shield area of the three-dimensional waveguide, a coupling-line portion that is electromagnetically coupled to a standing wave that occurs in the shield

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area" as recited in Applicant's Claim 12.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of Claim 12 under 35 U.S.C. § 102(b) as being clearly anticipated by Ishikawa et al.

In view of the foregoing amendments and remarks, Applicant respectfully submits that Claim 12 is allowable. Claims 13-22 depend upon Claim 12, and are therefore allowable for at least the reasons that Claim 12 is allowable.

In view of the foregoing amendments and remarks, Applicants respectfully submit that this application is in condition for allowance. Favorable consideration and prompt allowance are solicited.

The Commissioner is authorized to charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1353.

Respectfully submitted,

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